CLAIMS

1. Conveyer belt braking apparatus comprising:

an idler roller rotatable about an axle;

a brake member mounted adjacent the idler roller and movable relative to the roller between a first, inoperative position adjacent a belt supported by the roller and a second, braking position against the belt; and

an operating mechanism arranged to sense the direction of rotation of the roller and to move the brake member from the first, inoperative position to the second, braking position when the direction of rotation of the roller reverses in use.

2. Conveyer belt braking apparatus according to claim 1 wherein the brake member is arranged to be located between the belt and the roller when the brake member is in the second, braking position.

3. Conveyer belt braking apparatus according to claim 1 or claim 2 wherein the brake member is a plate mounted parallel to the roller and pivotable between the first and second positions.

4. Conveyer belt braking apparatus according to claim 3 wherein the plate is pivotable about an axis that coincides substantially with the axle of the roller.

5. Conveyer belt braking apparatus according to claim 4 wherein the plate is connected to a shaft that extends through a bore in the axle of the idler roller, the shaft being rotatable relative to the axle, with a one-way clutch mechanism within the body of the idler roller fixed to the shaft and to the body of the roller, so that the roller can rotate freely relative to the shaft in a forward direction but, when the roller

rotates in a reverse direction, the clutch engages, causing the shaft to rotate and to move the brake member from the first, inoperative position to the second, braking position thereof.

6. Conveyer belt braking apparatus according to claim 4 wherein the plate is connected to a sleeve fitted about the axle, the sleeve being rotatable relative to the axle, with a one-way clutch mechanism within the body of the idler roller fixed to the sleeve and to the body of the roller, so that the roller can rotate freely relative to the sleeve in a forward direction but, when the roller rotates in a reverse direction, the clutch engages, causing the sleeve to rotate and to move the brake member from the first, inoperative position to the second, braking position thereof.

7. Conveyer belt braking apparatus according to any one of claims 1 to 6 including at least one locking member associated with the idler roller and arranged to engage the brake member and to hold the brake member in the second, braking position thereof when the brake member moves from the first, inoperative position thereof to the second, braking position thereof.

8. Conveyer belt braking apparatus according to claim 7 wherein said at least one locking member comprises a bracket fixable to the axle of the roller and having a projection that engages a portion of the brake member when the brake member moves to the second, braking position thereof.

9. Conveyer belt braking apparatus comprising:

a brake member mountable adjacent the return path of a conveyer belt and movable relative to the conveyer belt between a first, inoperative position adjacent the return path of the belt and a second, braking position in which the brake member engages the belt frictionally; and

an operating mechanism responsive to a belt breakage to move the brake member from the first position to the second, braking position thereof.

10. Conveyer belt braking apparatus according to claim 9 wherein the brake member is a plate mounted adjacent and transverse to the return path of the conveyer belt, the brake member being pivotable between the first and second positions.

11. Conveyer belt braking apparatus according to claim 9 or claim 10 wherein the operating mechanism is a linkage connecting the brake member to a brake member of a conveyer belt braking apparatus according to any one of claims 1 to 8.